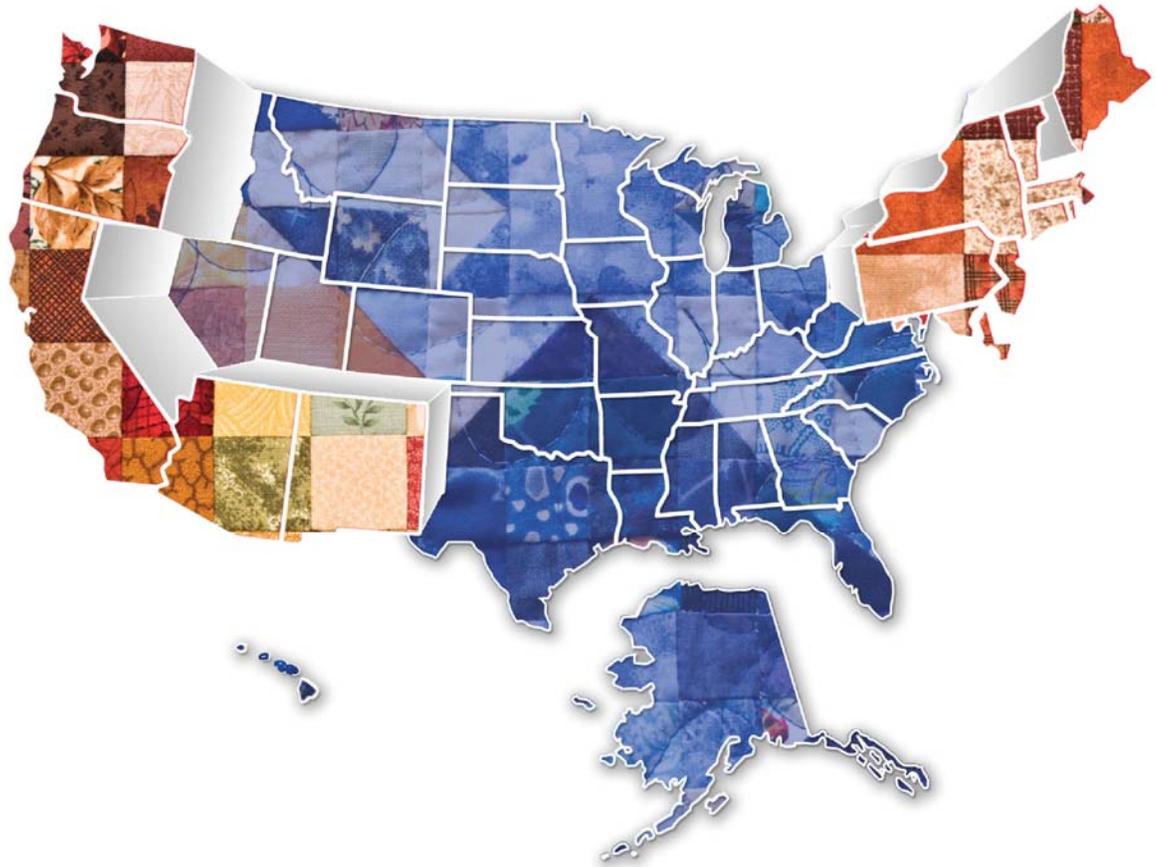


PATCHWORK PROVEN

WHY A SINGLE NATIONAL FUEL ECONOMY STANDARD
IS BETTER FOR AMERICA THAN A PATCHWORK OF
STATE REGULATIONS



January 2009

ABOUT THIS REPORT

This report was written by the staff of the National Automobile Dealers Association.

ABOUT THE NATIONAL AUTOMOBILE DEALERS ASSOCIATION

The National Automobile Dealers Association, founded in 1917, represents more than 19,700 new car and truck dealers, both domestic and international, with more than 43,000 separate franchises. NADA provides guidance on legal and regulatory matters for auto dealers, represents dealers on Capitol Hill, gathers research data on the retail automobile industry, and operates training and service programs to improve dealership business operations, sales and service practices.

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EXECUTIVE SUMMARY

On March 6, 2008, the administrator of the Environmental Protection Agency (EPA) denied the California Air Resources Board's (CARB) waiver request to implement its fuel economy/motor vehicle greenhouse gas regulation. During consideration of CARB's waiver request, a key issue emerged: whether granting the waiver would lead to a "patchwork" of state fuel economy regulatory regimes. CARB and its supporters argue that automakers need only comply with "at most" two regulatory regimes: a federal standard set by Congress and the CARB regime in states that adopt it. Conversely, supporters of a single, national federal fuel economy standard contend that state regulation of fuel economy/greenhouse gases (GHGs) would produce multiple state regulatory regimes, resulting in reduced consumer choice, economic harm to auto dealers and manufacturers, and the undermining of the recently reformed national corporate average fuel economy (CAFE) program.

Whether a regulatory patchwork would emerge can be determined by a thorough analysis of the regulations of the state and local governing bodies that adopted CARB's rule. After conducting such an analysis, this report finds that there would be a regulatory patchwork made up of all of the "California" or CARB states, except Pennsylvania.

There is a regulatory patchwork made up of every CARB state, except Pennsylvania.

This report also identifies serious policy flaws in CARB's regulation that have not been the subject of vigorous national debate or scrutiny.

Compliance with CARB's regulation is based on an automaker "delivering for sale" a fleet in each CARB state that achieves a certain fleet-wide GHG emissions average. As different vehicles emit different GHG levels, and consumers buy different vehicles in different quantities, an automaker's fleet-wide GHG emissions average will vary by state. A regulatory patchwork is thus created when a state adopts CARB's regulation and bases compliance on what an automaker "delivers for sale" in that state, with the variation in state fleets

forming the basis for the patchwork. Application of CARB's regulation means that an automaker could comply in California and offer the exact same choice of vehicles in another CARB state, and yet still not be in compliance, solely due to differing consumer demand.

A state-by-state patchwork of regulations would be complicated to comply with and would result in direct conflicts, as the federal government and CARB battle for regulatory supremacy. But these concerns pale in comparison to some of the patchwork's unintended consequences. For instance, as CARB's standard increases in stringency, the patchwork is likely to cause widespread "mix shifting," whereby an automaker manipulates the composition of its own fleet in a state solely to comply with CARB's GHG emissions average. Mix shifting includes rationing the availability of larger vehicles, discounting smaller size models, and other pricing strategies. With the passage of a much higher federal CAFE standard in 2007, mix shifting is the only realistic avenue for an automaker to ensure compliance in each CARB state. The fuel economy gains once contemplated by CARB's regulation have been supplanted by the new CAFE program, which is national in scope and cannot be evaded by mix shifting. If implemented, the legacy of CARB's regulation will be pervasive mix shifting, which distorts the auto market and does nothing to decrease GHGs or improve fuel economy on a national basis.

Mix shifting also reduces consumer choice in CARB states, as automakers are forced to ration larger vehicles to comply with CARB's statewide fleet GHG average. This reduction in consumer choice gives rise to another patchwork-related problem, the "cross-border sales loophole." This loophole will arise when new car buyers seek to purchase vehicles in neighboring states that are unavailable in their home state due to rationing. This loophole undermines the efficacy of each state's program, as vehicles purchased out of state are not counted towards an automakers' state GHG emissions average under CARB's rules. Thus one of the goals of CARB's program, i.e., to reduce in-state

emissions of GHGs, will be frustrated and can be easily evaded. This new loophole also will distort the new vehicle marketplace.

Enforcement of CARB's regulation will be particularly onerous in small CARB states due to the size of the fleets there (e.g., BMW's 2007 new light duty fleet in Maine was under 400 vehicles; Nissan's 2007 new light duty fleet in Vermont was approximately 1,100 vehicles).

Should America's fuel economy standard be set by Congress or one state agency?

Because automakers must maintain a separate fleet GHG average in each CARB state, brisk sales of popular models below the fuel economy standard in those states could force an otherwise complying automaker out of compliance. The regulation of such small fleets affords automakers little cushion to achieve the "right" sales mix necessary to comply with CARB's regulation. This result is an unavoidable consequence of applying a regulation written and designed exclusively for the nation's largest auto market (California) to states with much smaller markets and different vehicle sales mixes.

This report also examines the practical application of CARB's patchwork regime. In New Mexico, automakers would have to comply statewide and again in one county. In the District of Columbia, the design of CARB's regulation makes it nearly impossible for Ford to comply, while not affecting any other manufacturer. And at a time when Congress is directly aiding the domestic automakers by providing them tens of billions of dollars in loans, CARB exempts some of their competitors from regulation until 2016, provided they limit their sales into California.

Since over 40 percent of all new vehicle sales in the U.S. occur in CARB states, any granting of the California waiver would undermine the newly restructured federal CAFE program, as automakers struggle to comply with two competing and contradictory regulatory systems. Additionally, CARB's

patchwork regime seems particularly gratuitous since the National Highway Traffic Safety Administration, as directed by Congress in 2007, is moving to raise fuel economy standards above what CARB proposes. In effect, the enactment of a new federal CAFE standard has rendered CARB's motor vehicle GHG regulation a costly and unnecessary burden on an industry already reeling from the present economic downturn.

To date, the debate over the California waiver has centered on the process by which it was denied, and the stringency of CARB's regulation compared to the proposed CAFE rule (the final rule is due out no later than April 1, 2009). Little debate and analysis has focused on how CARB's regulation would actually work in practice.

As this report shows, the *structure* of a fuel economy system is as important as the *stringency* it sets. If nearly half of the American auto market is going to be regulated twice for fuel economy under two different systems, policymakers must clearly understand what the ramifications are of such a policy. With the overall fuel economy of our nation's fleet poised to rise substantially irrespective of the California waiver, the utility of CARB's entire GHG program must be called into question. Due to mix shifting and market-distorting loopholes and exemptions, CARB's regulation cannot be characterized as a harmless appendage to the national CAFE program. Finally, the potential practical impact of CARB's regulation raises the important policy question of whether fuel economy regulation should remain under the dominion of Congress, where competing national interests can be balanced, or if such regulation should be ceded to a single state agency.

PREFACE: CURRENT CHALLENGES FACING THE AUTO INDUSTRY

The year 2008 was a tumultuous one for America's auto industry. Auto sales dropped 18 percent, resulting in the lowest level of U.S. new vehicle sales since 1992.¹ These sales losses directly translated into job losses. Approximately 900 dealerships closed their doors in 2008, putting about 50,000 people out of work. Another 1,100 dealerships are expected to close in 2009. On the manufacturing side, since 2005, domestic automakers have shed 149,000 hourly jobs, and shuttered 35 plants permanently. Many other factories, including those of international automakers, have been idled, reduced shifts, or have delayed opening.²

No automaker has been immune from the present economic downturn. Five of the six biggest selling automakers in America (General Motors, Toyota, Ford, Chrysler, and Nissan) experienced double digit sales declines in 2008. Toyota posted its first-ever operating loss, and General Motors and Chrysler requested and received bridge loans from the federal government to continue operations. Economists forecast even weaker auto sales in 2009.

In addition to the worst economic conditions in a generation, the auto industry faces a new burden in 2009: a proposed 25 percent increase in fuel economy standards, costing about \$47 billion.³ This increase was ordered by Congress in December 2007.⁴

Against this backdrop of economic distress and despite a federal fuel economy mandate that will significantly reduce motor vehicle GHGs, CARB continues to seek to impose its own fuel economy standards, but on a patchwork basis, and involving a completely different regulatory scheme.

¹ Kendra Marr, "U.S. Auto Sales Fell 36% in December, Declines Expected to Continue in '09," The Washington Post, January 6, 2009.

² Lindsay Chappell, "Toyota halts U.S. Prius project," Automotive News, December 15, 2008.

³ Harry Stoffer, "Bush Leaves CAFE Decision for Obama," Automotive News, January 7, 2009.

⁴ Pub. L. No.110-140, 121 Stat. 1492 (2007)

Touted by CARB as a “better national solution” when compared to the newly restructured CAFE program,⁵ the cost of CARB’s regulation outside of California is virtually unknown, as there has been scant analysis of its impacts on employment, on the environment, or on highway safety nationally.⁶ In fact, basic questions, such how much new vehicle prices will be raised if CARB’s regulation is implemented simultaneously with the national CAFE standard remain unanswered. Aside from imposing new costs, the public may question the wisdom of regulating fuel economy twice under two completely different systems: one national in application affecting all automakers, and one on a patchwork basis affecting only American automakers, the largest Japanese automakers, and BMW.

⁵ CARB, “*Comparison of Greenhouse Gas Reductions for the United States and Canada Under U.S. CAFE Standards and California, An Enhanced Technical Assessment*,” February 25, 2008, page vii.

⁶ CARB dismissed evidence showing the likelihood of job losses at manufacturing plants in other States as “outside the scope of [CARB’s] analysis, which focused on California impact.” See CARB, “*Regulations to Control Greenhouse Gas Emissions from Motor Vehicles: Final Statement of Reasons*.” August 4, 2005, page 273.

BACKGROUND: THE CLEAN AIR ACT

The Clean Air Act (CAA) requires EPA to set limits on air pollutants emitted from new motor vehicles.⁷ This law expressly preempts states and localities from setting their own vehicle emissions regulations,⁸ with one exception.⁹ Because its motor vehicle air pollution laws predate the CAA and due to certain unique air quality conditions present in the state, the CAA permits California to set its own standards, but only after obtaining a preemption waiver from EPA.¹⁰ The state agency that regulates mobile source air pollution is the California Air Resources Board (CARB). In 1977, Congress amended the CAA to allow other states to adopt and enforce standards set by CARB, if covered by an EPA preemption waiver.¹¹

This dual system of regulating air pollution from vehicles was designed to combat smog and other localized pollutants. Under this system, automakers manufacture two types of vehicles: (1) those that meet CARB's standards (so-called "California cars") and (2) those that meet EPA's federal emissions standards (so-called "Federal cars" or "49-state cars").¹² To date, CARB's anti-smog regulations have not resulted in a burdensome regulatory patchwork because an automaker can certify a "California car" that is different from a "Federal car".¹³ This "California car" can then be delivered to "California" states. Also, in a "California" states, automakers are not required to meet both federal and CARB air pollution standards, only CARB standards.

⁷ 42 U.S.C. § 7521(a).

⁸ 42 U.S.C. § 7543(a)

⁹ 42 U.S.C. § 7543(b)(1)

¹⁰ U.S. Environmental Protection Agency, *Fact Sheet on Vehicle Greenhouse Gas Emissions*, updated June 3, 2008.

¹¹ 42 U.S.C. § 7507

¹² There are some cars that meet (and are pre-certified to meet) both the CARB and EPA standards. These cars are often referred to as "50-state cars."

¹³ Physical differences aside, since the full implementation of EPA's "Tier 2" emissions standards in 2007, "California" cars are no longer "cleaner" than federal cars. Passenger vehicles sold today are 99% cleaner than the 1970s fleet.

In contrast, CARB’s fuel economy/greenhouse gas (GHG) regulation is markedly different than its air pollution regulations. First, the predominant GHG gas that CARB seeks to regulate, CO₂, is neither a localized pollutant¹⁴ nor a component of smog. Second, CARB’s fuel economy/GHG regulation does not regulate individual vehicles, so any passenger vehicle may potentially comply. There is no distinct “California car” for purposes of CARB’s fuel economy/GHG rule. Third, compliance is not based on what an automaker builds, but on what mix of vehicles are “delivered for sale” in each “California” or CARB state. Finally, CARB states cannot opt out of compliance with federal CAFE rules.

BACKGROUND: CAFE

In 1975, Congress enacted the Energy Policy and Conservation Act (EPCA).¹⁵ Included in this law was the CAFE program, which mandated for the first time fuel economy standards for passenger cars and light duty trucks.¹⁶

To ensure uniformity, and to avoid a patchwork of state regulations,

As proposed, the federal CAFE standards are higher than CARB’s vehicle GHG standards.

Congress explicitly preempted all states -- including California -- from adopting or enforcing laws “related to” fuel economy.¹⁷

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law.¹⁸ In addition to restructuring the federal CAFE program, EISA requires a new fleet-wide combined fuel economy average of at least 35 miles per gallon by 2020 – an increase of at least 40 percent.¹⁹ EISA also will reduce CO₂ tailpipe emissions by at least 30 percent due to the close and direct mathematical relationship between increases in fuel economy and

¹⁴ “...a ton of greenhouse gases emitted in the United States has the same impact as a ton emitted in Malaysia.” Robert R. Nordhaus and Kyle W. Danish, Pew Center on Global Climate Change, *Designing a Mandatory Greenhouse Gas Reduction Program for the U.S.* (2003), page 2.

¹⁵ 49 U.S.C. § 32901 et seq.

¹⁶ 49 U.S.C. § 32902

¹⁷ 49 U.S.C. § 32919(a)

¹⁸ Pub. L. No.110-140, 121 Stat. 1492 (2007)

¹⁹ Id., § 102(b)(2)(A)

decreases in CO₂ tailpipe emissions. In fact, if fuel economy had not increased above the 1975 level, cars and light trucks would have emitted an additional 11 billion metric tons of CO₂ into the atmosphere between 1975 and 2005.²⁰

On May 2, 2008, the National Highway Traffic Safety Administration (NHTSA) proposed new higher fuel economy standards as mandated in EISA.²¹ If adopted as proposed, this rule, which covers model years 2011-15, will save 55 billion gallons of fuel and prevent 521 million metric tons of CO₂ from being emitted.²² On a national level, the new federal CAFE standards will be higher than what CARB has adopted, as shown in the chart below:

Fleet-Wide Fuel Economy Standard (mpg)²³

| Model Year | CAFE (proposed)²⁴ | CARB²⁵ |
|-------------------|-------------------------------------|--------------------------|
| 2011 | 27.8 | 26.7 |
| 2012 | 29.2 | 29.5 |
| 2013 | 30.5 | 29.9 |
| 2014 | 31.0 | 30.4 |
| 2015 | 31.6 | 31.3 |

²⁰ 73 Fed. Reg. 24357 (May 2, 2008)

²¹ Id., at 24352

²² Id., at 24456

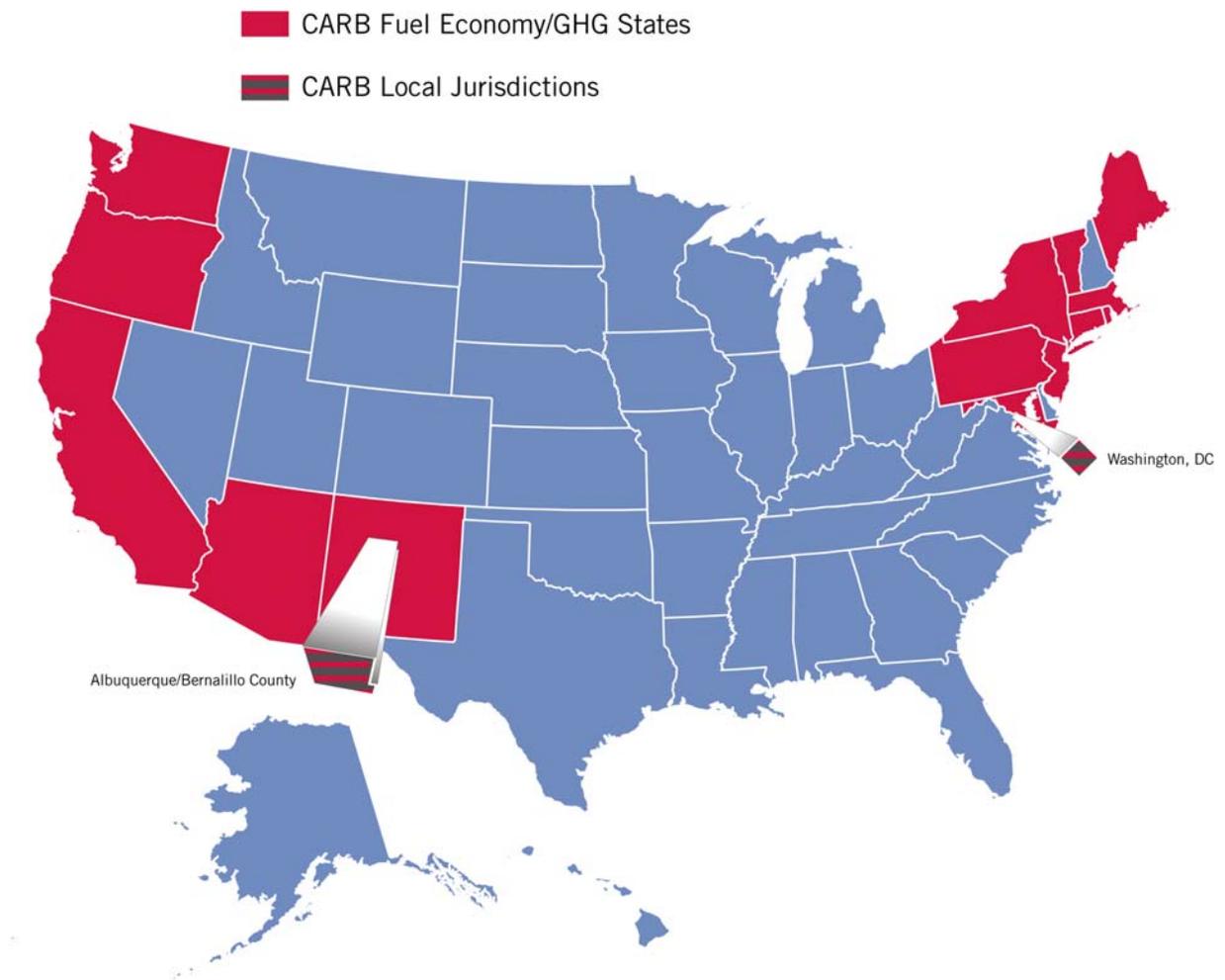
²³ This table presents comparisons drawn from NHTSA and CARB documents that average across all manufacturers, all product lines and all States. Depending on the mix of vehicles they sell in a given State and other factors, manufacturers will have to take steps to comply with the state fleet average standards for greenhouse gases, over and above what would be required to comply with the federal fuel economy standards. For example, in New Mexico, enforcement of the state greenhouse gas standards will result in significant reductions in the number and types of passenger cars sold in New Mexico, whose greenhouse gas standards for such vehicles are 10 to 20 percent more stringent in model year 2015 than the federal fuel economy standards for those vehicles proposed by NHTSA. This is why CARB claims that in some States “fuel economy is lower under the new federal fuel economy standard than under the Pavley (i.e., CARB) rules.” See CARB, “*Comparison of Greenhouse Gas Reductions for the United States and Canada Under U.S. CAFE Standards and California, An Enhanced Technical Assessment*,” February 25, 2008, page 8. On a nationwide basis, and averaging all manufacturers and vehicle types together, the CARB program loses its advantage, as shown in this table.

²⁴ 73 Fed. Reg. 24355 (May 2, 2008)

²⁵ CARB, “*Comparison of Greenhouse Gas Reductions for the United States and Canada Under U.S. CAFE Standards and California, An Enhanced Technical Assessment*,” February 25, 2008, pages 8-10. This figure excludes California, where CARB estimates a fleet-wide fuel economy of 34.5 mpg. The figure for California is higher than the other 49 states because CARB assumes a fleet mix of 70 percent passenger cars, which generally have a higher fuel economy rating. CARB’s figures also apparently do not factor in the manufacturers its regulation exempts.

In 2004, CARB issued its fuel economy/GHG rules and petitioned EPA for the CAA preemption waiver necessary to implement them.²⁶ Subsequently, 13 states and two jurisdictions adopted CARB's regulation.²⁷ On March 6, 2008, EPA denied CARB's petition.²⁸

Map of the CARB States/Jurisdictions



²⁶ Letter from Catherine Witherspoon, Executive Officer, CARB, (December 21, 2005).

²⁷ Although Pennsylvania is a “California” or “CARB” state, it did not adopt CARB’s GHG fleet average, and hence is not part of CARB’s patchwork. Accordingly, all references in this report to the impacts of the patchwork on CARB states exclude Pennsylvania.

²⁸ 73 Fed Reg. 12156 (Mar. 6, 2008).

SETTING FUEL ECONOMY BY REGULATING CO₂

Under federal law, “a State or a political subdivision of a State may not adopt or enforce a law or regulation related to fuel economy....”²⁹ In 2002, California legislators passed a law (AB 1493) requiring CARB to regulate motor vehicle GHGs (primarily CO₂).³⁰ As CO₂ emitted from the tailpipe of a motor

Regulating motor vehicle greenhouse gases is tantamount to regulating fuel economy.

vehicle is the natural by-product of the combustion of fuel, increasing a vehicle’s fuel economy (i.e., burning less fuel) is the only practical way of significantly reducing motor vehicle CO₂ emissions. “The only real way to reduce carbon dioxide emissions is to reduce the amount of carbon being put in the gas tank; greenhouse gas regulations for cars and trucks would force manufacturers to build and sell vehicles with higher fuel economy,” wrote a former EPA official who supported granting the California waiver, in testimony before a Senate committee.³¹ In a similar vein, a *New York Times* editorial praising CARB’s regulation soon after its release stated:

“Since carbon dioxide and other gases linked to global warming cannot be filtered in the same way that catalytic converters filter out harmful smog-forming particles, the only way to cut global warming emissions is to reduce fuel use. *That means making more fuel-efficient cars.*” [emphasis added]³²

In addition to CO₂, CARB also seeks to regulate three other vehicle GHGs -- methane, nitrous oxide, and hydroflurocarbons (HFCs). But these non-CO₂ GHGs are trivial, as CO₂ comprises 97%³³ of vehicle GHGs.³⁴ In fact, the relationship between fuel economy and tailpipe CO₂ emissions is so close that

²⁹ 49 U.S.C. § 32919(a)

³⁰ Cal. Health & Safety Code § 43018.5

³¹ *An Update on the Science of Global Warming and its Implications Before the Senate Environment and Public Works Committee*, 110th Cong., 2nd Sess. (2007) (statement of Jason Burnett, former Associate Deputy Administrator, EPA, at page 11).

³² “*California Leads on Warming*,” *New York Times* editorial, June 15, 2004

³³ This figure excludes water vapor, a greenhouse gas emitted from motor vehicles and the most abundant greenhouse gas in the atmosphere. This gas was not regulated by CARB. See National Oceanic and Atmospheric Administration, *Greenhouse Gases, Frequently Asked Questions*, <http://www.ncdc.noaa.gov/oa/climate/globalwarming.html> (last accessed November 14, 2008).

³⁴ Thomas C. Austin, et al., “Review of the August 2004 Proposed CARB Regulations to Control Greenhouse Gas Emissions from Motor Vehicles: Cost Effectiveness for the Vehicle Owner or Operator, Appendix C” September 24, 2004, page 8.

compliance with CAFE is assessed by measuring the amount of carbon emitted from a vehicle's tailpipe.³⁵ Simply put, compliance with CARB's regulation requires significantly lowering the CO₂ emissions of an automaker's fleet, which means significantly raising the fuel economy of that fleet – an activity already regulated at the federal level.³⁶ Absent a significant increase in new vehicle fleet fuel economy, it is impossible to comply with CARB's regulation.

ANATOMY OF THE PATCHWORK

Under CARB's regime, building a more fuel efficient fleet (which is required for compliance under CAFE) is insufficient to ensure compliance. Instead compliance is based on an automaker's fleet-wide GHG emissions average for vehicles "delivered for sale" in each CARB state. Delivery of vehicles with fuel economy ratings below the CARB standard will decrease an automaker's fleet average, while delivery of vehicles with fuel economy ratings above the CARB standard will increase the fleet average. Since the fleet average is sales weighted, it is vital for an automaker to "deliver for sale" sufficient vehicles in each CARB state with fuel economy ratings above the CARB standard to offset vehicles delivered for sale with ratings below.

Being in compliance in California will not guarantee compliance in any other CARB state.

"Each individual vehicle is *not* [emphasis in the original] required to meet the regulations. A manufacturers' fleet as a whole must meet the requirement so one type of vehicle can offset another," states a fact sheet produced by the office of California Attorney General Jerry Brown on CARB's regulation.³⁷

³⁵ Ken Bensinger, "California emission waiver looms for carmakers," Los Angeles Times, January 19, 2009. The article states: "Simply put, reduced carbon emissions track very closely with higher fuel efficiency since they are measured in grams of carbon per mile."

³⁶ No appeals court, nor the Supreme Court, has ruled on whether CARB's motor vehicle GHG regulatory regime is preempted by EPCA. The Supreme Court decision *Massachusetts v. EPA* is silent on the subject.

³⁷ Office of the California Attorney General, http://ag.ca.gov/globalwarming/myths/too_hard.php. Last accessed November 13, 2008.

While CARB sets the overall standard and writes the rules, each CARB state will pose a different regulatory challenge for automakers, because consumer appetites vary from state to state, and therefore no two state fleets are alike. Accordingly, the mix of vehicles automakers “deliver for sale” in California differs from what they “deliver for sale” in other states. These differences mean that being in compliance in California, and offering the exact same choice of vehicles nationwide will not guarantee compliance in any other CARB state. Thus, the more states that opt into the CARB regime, the more cumbersome the patchwork would become. If CARB’s regulation were to take effect in all 50 states, the resulting 50-state patchwork would require automakers to manage 50 unique state fleets and to individually meet CARB’s standard 50 different ways.³⁸

Generally, CARB’s regime would pressure automakers to “deliver for sale” small vehicles in each CARB state (irrespective of consumer demand) to offset

If adopted by all 50 states, CARB’s regulation would still result in a patchwork, as even national compliance with CARB’s standard would bring no guarantee of compliance in any state.

the sale of larger vehicles.³⁹ CARB’s regulation favors the sale of light, smaller vehicles, as the less massive a car is, the less fuel it consumes, and consequently, the less CO₂ it emits.

This bias in favor of small vehicles, instead of more fuel efficient vehicles (as CAFE contemplates), would reduce consumer choice in CARB states.

By comparison, the newly modernized CAFE program does not reward “gaming the system” by encouraging automakers to restrict sales in certain jurisdictions or “juggling product” to comply (“mix shifting”). Instead, the revised CAFE law forces automakers to increase the fuel efficiency of their overall fleet to

³⁸ CARB envisions their regulatory regime being adopted by all 50 states and Canada. See *Comparison of Greenhouse Gas Reductions for the United States and Canada Under U.S. CAFE Standards and California Air Resources Board Greenhouse Gas Regulations*, page viii, February 25, 2008.

³⁹ Barry Penner, the environmental minister for British Columbia, which adopted CARB’s regulation, stated: “The [CARB] 2016 standard doesn’t depend on new technology. Manufacturers could meet it today by selling *more* [emphasis added] of their existing compact, subcompact and hybrid vehicles, lowering their fleet average [CO₂ emissions] while still offering bigger and higher-performance vehicles.” See Tom Fletcher, *B.C. adopts California tailpipe standards*, Victoria [B.C.] News, May 9, 2008.

comply. This approach will not unduly impact consumer demand, as it allows automakers to build the vehicles they believe will best meet the needs of their customers. State by state sales disparities, or sales in a particular county, are not a factor under CAFE.

ROAD TO NOWHERE: MIX SHIFTING

The number and types of models automakers “deliver for sale” in a CARB state is of crucial importance in determining compliance.⁴⁰ But complications are certain to arise if consumers disproportionately purchase popular models with fuel economy ratings below the CARB standard in a CARB state. This situation all but forces an automaker to “mix shift” to comply. Mix shifting is a compliance strategy whereby an automaker manipulates the composition of its own fleet in a state solely to comply with the fleet-wide GHG emissions average. This is done by rationing larger vehicles, discounting smaller models for quick sale, or other pricing strategies that distort the auto market.⁴¹ Because of CARB’s patchwork design, some degree of mix shifting will be necessary for automakers to achieve the required fleet average GHG emissions levels. Mix shifting, however, does nothing to decrease GHGs or improve fuel economy on a national basis.

CARB’s regulation will result in the rationing of larger vehicles, the discounting of smaller models, or both.

CARB maintains that mix shifting is unlikely to occur, contending that since the law (AB 1493) governing its regulation directs model availability not be impacted, “there would be no need to resort to mix shifting.”⁴² But merely decreeing mix shifting away does not lessen its suitability or viability as a

⁴⁰ Further complicating compliance with CARB’s patchwork structure, Rhode Island’s regulation is more expansive, as it bases compliance on vehicles “sold, leased, offered for sale or lease, imported, delivered, purchased, rented, acquired, received, or registered in the State of Rhode Island.” Vermont also regulates “leased” vehicles.

⁴¹ “*Clean Cars Bill Will Help Improve State’s Air Quality*,” The Capital (Annapolis, MD), February 1, 2007. This editorial in favor of CARB’s regulation states: “If state standards for cutting [GHG] emissions aren’t met, there could be fines – although auto companies would presumably try to avoid this by *slashing prices on cars with lower emissions* [emphasis added].”

⁴² CARB, “*Regulations to Control Greenhouse Gas Emissions from Motor Vehicles: Final Statement of Reasons*.” August 4, 2005, page 177.

compliance option. Similarly, the Florida Department of Environmental Protection claims that “mix shifting [is] unlikely by design” because the “technologies required” to comply are “achievable.”⁴³ But with the passage of EISA, CARB’s regulation can now be met entirely by mix shifting, as it neither requires nor forces deployment of any fuel saving technologies.

Mix shifting is an unattractive compliance option to the extent that it is economically disruptive and produces no national environmental or energy security benefit. But the new federal CAFE standard has made mix shifting, once merely a likely compliance option, the only practical alternative for automakers should they be required to meet CARB’s standard on a state by state basis. Under a single CAFE standard, automakers cannot mix shift their way to compliance, as compliance is based on what automakers build for sale nationwide, not what models they sell in a particular state.

UNIQUE STATE FLEETS MAKES A PATCHWORK UNAVOIDABLE

One of the most unusual aspects of the patchwork is that automakers complying in California could offer the exact same choice of vehicles in another CARB state, and still be out of compliance in that state. Only if consumers in every CARB state were to buy vehicles in the same proportion as California consumers would automakers complying in California also be in compliance in every other CARB state. However, new vehicle sales for each automaker differ from state to state, as illustrated by the following table:

⁴³ Florida Department of Environmental Protection, “*Greenhouse Gas Emission Standards for New Motor Vehicles*,” powerpoint presentation, September 29, 2008.

**Market Share of the Top Ten Most Popular Chrysler Vehicles in California
Compared to Chrysler’s Fleets in Rhode Island and New Jersey (2007)**

| Vehicle | Market Share Rank in California | Combined Fuel Economy (MPG) | California Percentage of Fleet | Rhode Island Percentage of Fleet | New Jersey Percentage of Fleet |
|------------------------------------|----------------------------------------|------------------------------------|---------------------------------------|-----------------------------------------|---------------------------------------|
| Dodge Ram | 1 | 18.7 | 20.66% | 9.46% | 8.43% |
| Chrysler 300 | 2 | 24.4 | 11.26% | 4.65% | 5.11% |
| Jeep Wrangler | 3 | 21.2 | 9.99% | 15.15% | 9.79% |
| Dodge Charger | 4 | 24.4 | 7.56% | 2.48% | 3.01% |
| PT Cruiser | 5 | 26.2 | 5.41% | 2.89% | 2.01% |
| Jeep Grand Cherokee | 6 | 20.2 | 5.23% | 11.23% | 16.26% |
| Dodge Nitro | 7 | 22.6 | 4.07% | 3.97% | 4.00% |
| Chrysler Town & Country | 8 | 24.4 | 3.68% | 5.48% | 6.84% |
| Jeep Liberty | 9 | 22.7 | 3.47% | 6.94% | 7.41% |
| Jeep Commander | 10 | 19.4 | 3.41% | 3.29% | 5.46% |

Source: R.L. Polk & Co.; Chrysler LLC

In 2007, Chrysler’s top sellers in California, Rhode Island and New Jersey were all different models. The Jeep Grand Cherokee has over three times the market share in New Jersey as compared to California. Chrysler’s top selling car in California, the 300, garnered over twice the market share than in Rhode Island and New Jersey. The PT Cruiser, which sells well in California, did not make the top ten in sales in Rhode Island or New Jersey. Similarly, a moderately popular model in Rhode Island and New Jersey, the Dodge Caravan, did not rank in California’s top ten for sales.

In practical terms, if Chrysler built its fleet to comply in California, compliance in other states would still not be assured because consumers buy different Chrysler vehicles in different quantities, which means Chrysler would have a different fleet-wide GHG average in each state. If new car buyers do not buy the “right” mix of an automaker’s vehicles, this situation would force an automaker to either ration vehicles their customers want, and/or discount other models, solely to generate sales for compliance reasons. Both choices distort

the retail auto market for no commensurate reduction in overall GHGs or improvements in fuel economy.

PATCHWORK IN PRACTICE: VERMONT

CARB's regulation was written specifically by California regulators for the California auto market. The size and make-up of auto markets in other states, along with their unique consumer demands, and the potential for job loss outside of California were not considered by CARB when it adopted its regulation.⁴⁴ Because California's auto market is the largest in the nation, the adoption of CARB's regulation by states with small auto markets produces peculiar and unfair policy results, especially when CARB's exemption policy is applied.

In 2007, 1.39 million new vehicles were sold in California. Such a vast market would afford automakers some regulatory breathing room to "average out" their fleets to comply with CARB's regulation. The size of a manufacturer's fleet in a state is important, as the smaller the fleet is, the more susceptible an automaker is to changes in consumer preferences, which can decrease its GHG average. As Vermont's new car market is 39 times smaller than California's market, a thousand customers in Vermont buying one particular make will have a much larger impact on an automaker's GHG average than a thousand customers buying the same vehicle in California. This disparity, however, is not recognized under CARB's rules.

Because of its size, the patchwork could hit Vermont hardest.

CARB's rules exempt until 2016 vehicle manufacturers which deliver for sale in California less than 60,000 vehicles per year, on average for three years.⁴⁵ After 2016, exempt automakers would lose their exemption, but they

⁴⁴ In contrast, under federal law, NHTSA must consider national economic factors, such as national job loss, the economic health of the automakers, and consumer affordability when setting a fuel economy standard.

⁴⁵ CARB, *Regulations to Control Greenhouse Gas Emissions From Motor Vehicles, Final Statement of Reasons*, pages 321-22, August 4, 2005.

would still receive preferential treatment, as they will be subject to a lower standard than some of their better-selling competitors.

As a CARB state, Vermont would be required to follow CARB's regulation without exception, which would make for some notable incongruities. For example:

- CARB stated that complying with its regulation would be “very difficult” for some of the automakers it exempts. In Vermont, every manufacturer sells fewer than the 60,000 vehicles threshold and no single automaker sold more than 10,000 vehicles there in 2007. Yet General Motors, Ford, Chrysler, Nissan, Toyota, BMW and Honda would not be exempt in Vermont.
- There is one BMW dealership in Vermont. The variety and quantity of new vehicles delivered to this dealership alone will largely determine whether BMW is in compliance in Vermont. With less than 400 vehicles sold in 2007 in Vermont, BMW will have to closely monitor sales to ensure that a requisite amount of vehicles above the CARB standard (from an mpg perspective) are delivered. If new car buyers do not buy a “balanced fleet” of BMW vehicles from this one dealership, BMW likely would have to curtail the delivery of certain vehicles to ensure compliance.⁴⁶ Yet a Vermonter could drive to a bordering state and legally purchase a “curtailed” CARB-certified BMW and register it in Vermont. This vehicle would not count against BMW's fleet-wide GHG emissions average in Vermont, however, because it was not “delivered for sale” in Vermont.

⁴⁶ While there are other compliance options, they are dependent on factors beyond BMW's (or any automaker's) control. For example, one compliance option is credit trading. This strategy will only succeed however if BMW's competitors (1) have excess credits to sell; and (2) desire to aid a competitor. The “E-85 option” whereby automakers accrue credits when their customers purchase the alternative fuel E-85 is not a viable option, as Vermont has no E-85 filling stations. And because of their minute levels, eliminating emissions of the three other greenhouse gases regulated cannot ensure compliance.

- Vehicle rationing is likely to occur in Vermont, because the market is so small for all automakers. In states with small markets (e.g., Rhode Island and Maine) slight shifts in consumer preferences towards larger vehicles could wreak havoc with a manufacturer's fleet-wide state GHG emissions average. As the nation's largest single state market, California is probably least likely to experience vehicle rationing.
- Other incongruities abound in Vermont and other CARB states. Based on new car vehicle registrations in California, Hyundai/Kia would likely be exempt in California, making it exempt in all other CARB states. Yet except in Connecticut and California, Hyundai/Kia outsells BMW (which is not exempt) in every CARB state. In fact, in some CARB states, Hyundai sells two to four times more vehicles than BMW.
- Based on the most recent new car registration data for California, Ferrari, Jaguar, Land Rover, Suzuki, Maserati, Mitsubishi, Audi, Bentley and Isuzu also would be exempt. If sales for these brands remain steady or show moderate growth in California, these manufacturers would remain exempt until 2016. Manufacturers on the cusp of being covered by CARB's rules (e.g., Volkswagen) would lose their exemption if their sales grow a modest amount in California. Consequently, automakers in this situation would face the unpalatable choice of either limiting sales in California or losing their exemption, with the potential for noncompliance penalties.
- Other makes could be exempt. If General Motors sells its Hummer division⁴⁷ to a currently exempt entity, it is likely that all Hummers would be exempt until 2016. Similarly, new entrants from China or India⁴⁸ merely have to project less than 60,000 in annual sales in California to qualify for

⁴⁷ Sharon Terlap, "GM further modifies production; hires broker for Hummer," The Detroit News, June 23, 2008.

⁴⁸ Justin Hyde, "Calif. Fuel Law to Benefit Some Foreign Automakers," Detroit Free Press, May 21, 2008.

a CARB state exemption, helping them to gain a foothold into the American market.⁴⁹

The above examples illustrate the irrationality of basing regulatory exemptions on a factor (i.e., sales in California) that is completely arbitrary outside of California. The unintended results of CARB's exemption policy should hardly be unexpected, given that it is designed to apply in California and is predictably ill-suited for application in other states, especially small states such as Vermont. By comparison, the federal CAFE law only exempts vehicle manufacturers that make fewer than 10,000 vehicles annually worldwide.⁵⁰

A potential exemption for Hummer, courtesy of the patchwork.

PATCHWORK IN PRACTICE: WASHINGTON, D.C.

The District of Columbia is home to one new car dealership, Martens Cars of Washington, that sells two brands, Volvo (owned by the Ford Motor Company) and Volkswagen. Because D.C.'s new car market is so dissimilar to California's, application of CARB's patchwork regime in the District would produce some nonsensical results. For example:

- Ford and Volkswagen would be the only automakers affected by D.C.'s adoption of the CARB regulation, because they are the only automakers delivering new vehicles for sale in the District. All other automakers would be exempt solely because they do not deliver new vehicles for sale within D.C. city limits.
- Based on current sales data, Volkswagen likely would be exempt in California from CARB's regulation, and thus would similarly be exempt in D.C. Volvo would not be exempt in either place, because its sales,

⁴⁹ CARB, *Report to Legislature and Governor on Regulations to Control Greenhouse Gas Emissions from Motor Vehicles*, December 2004, page 31.

⁵⁰ 49 U.S.C. § 32902(d)

counted along with Ford's sales in California, are above 60,000 per year. Thus, CARB's patchwork likely would produce the unusual result of D.C.'s sole auto dealer selling one brand exempt from regulation along side a regulated brand -- based on sales a continent away.

Compliance in D.C. would be difficult for Ford, as its compliance would be based almost entirely on sales at a single Volvo dealership. In other words, any fuel economy gains achieved by Ford from its other brands other than Volvo would not count for purposes of

Ford vehicles that achieve high fuel economy, such as the Ford Escape hybrid, would not count towards its compliance in D.C.

compliance with D.C.'s law. For example, the Ford Escape hybrid achieves excellent fuel economy, but because it is not delivered for sale in the District, Ford would receive no "credit" for producing it. Ford's dilemma is compounded by the fact that District residents can purchase "unregulated" Ford vehicles in neighboring Virginia and register them in the District.

The chart below dramatizes why the existence of the patchwork cannot be dismissed by claiming "there can only be at most two standards." This chart illustrates that even if Ford's fleet fully complied with CARB's regulation in California, the automaker would have difficulty complying in the District.

Top 10 New Car Registrations of CARB-Regulated Ford Vehicles in California and the District of Columbia, 2007

| Rank | California | District of Columbia |
|------|-----------------|----------------------|
| 1. | Ford F Series | Volvo S40 |
| 2. | Ford Mustang | Volvo XC90 |
| 3. | Ford Escape | Volvo XC70 |
| 4. | Ford Focus | Volvo S60 |
| 5. | Ford Edge | Volvo S80 |
| 6. | Ford Fusion | Volvo C70 |
| 7. | Ford Expedition | Volvo V70 |
| 8. | Ford Ranger | Volvo V50 |
| 9. | Ford Explorer | Volvo C30 |
| 10. | Volvo XC90 | (No model) |

Source: R.L. Polk & Co. 2007 new vehicle registration data

While CARB aspires for its regulation to be national in application, in the nation's capital (and elsewhere), it is obviously a poor fit.⁵¹ The previous chart again demonstrates why a single, national federal fuel economy standard is the best (and most coherent) way to save fuel and reduce motor vehicle GHGs.

PATCHWORK IN PRACTICE: NEW MEXICO

CARB's patchwork regime has been taken to an entirely new level in part of New Mexico. As with other CARB states, in New Mexico covered automakers will have to meet CARB's fleet-wide GHG emissions average based on the fleets

A county in New Mexico takes the patchwork to a new level.

they deliver for sale statewide. But Bernalillo County, New Mexico also has adopted CARB's regulation, requiring automakers to meet CARB's standard separately there, based on the fleets they deliver for sale in that county. Therefore, under CARB's regulation, vehicles delivered for sale in Bernalillo County would count towards an automakers' fleet-wide state GHG emissions average, but vehicles delivered for sale outside of Bernalillo County in New Mexico would not count towards compliance at the county level, as they were not "delivered for sale" there. Accordingly, an automaker could be in compliance statewide, but out of compliance in Bernalillo County, or vice versa.

The triple regulation of fuel economy in Bernalillo County – on a federal, state, and county level -- is precisely the situation Congress chose to explicitly avoid when it enacted the CAFE law. Should CARB receive a preemption waiver, it would permit the enforcement of its GHG rules in Bernalillo County and potentially in other counties or regions as well.

⁵¹ CARB estimates that its regulation will save 400,000 metric tons of carbon dioxide from being emitted in the District by 2016. See CARB, *Addendum to January 2 Technical Assessment*, January 23, 2008, page 4. But as CARB's rule would only regulate 300-400 Volvos in the District per year, this may be an unrealistic estimate. Motor vehicle GHGs will be reduced in the District, however, under the new CAFE standard.

The examples of Vermont, D.C. and New Mexico demonstrate the flaws and limitations of regulating fuel economy under a patchwork regime. Yet despite the potential for wildly differing results in each CARB jurisdiction, CARB officials maintain there is no “patchwork.”

ARGUMENTS DENYING THE PATCHWORK

CARB officials suggest that because there is no federal GHG standard, there can be no patchwork.⁵² This is incorrect, as the lack of a federal GHG standard is irrelevant to whether a patchwork would exist or not. The mere adoption by other states of CARB’s regulation and basing compliance on what an automaker delivers for sale in that state creates a patchwork. As shown in the Ford and Chrysler examples, what an automaker delivers for sale in California and what an automaker delivers for sale in another state can vary dramatically. This variation creates the patchwork.

A second argument made by supporters of the CARB approach is that under federal law, there can only be two standards: the federal standard and the CARB standard.⁵³ Adherents to this argument claim that since there can only be two standards, a patchwork cannot possibly exist. Once again, this argument ignores that each time a state adopts CARB’s regulation and bases compliance on what automakers deliver for sale in that state, the patchwork grows. In addition, the federal CAFE standard remains overlaid on top of this patchwork.

Another argument denying the patchwork was made by Governor Jon Corzine (D-N.J.), who stated:

⁵² Richard Simon and Janet Wilson, *EPA Denies California's Right to Mandate Emissions*, Los Angeles Times, December 20, 2007. The article stated: “CARB Chairwoman Mary Nichols, whose agency requested the waiver two years ago, said there was no ‘patchwork’ of standards. ‘There is a California greenhouse gas standard . . . which 16 [sic] other states would adopt, whereas there is no federal greenhouse gas standard.’”

⁵³ “Finally, the committee should not be misled by EPA’s press statement, which claimed that approving the California waiver would lead to a ‘confusing patchwork of state rules.’ There are only two possible standards: Federal or California.” Submitted testimony of Gov. M. Jodi Rell (R-CT), U.S. Senate Environment and Public Works Committee, January 24, 2008.

“However, there are only two standards -- the California standard and the federal standard. While these two standards are similar, they serve different purposes. The new energy bill [EISA] will regulate fuel economy standards, but the California standard focuses primarily on regulating greenhouse gas emissions... Instead, the only patchwork created would be the geographic distribution of the two programs.”⁵⁴

Governor Corzine is correct that CARB’s regulation is similar to the CAFE program, as both seek to regulate the same activity: fuel economy. However, the fact that they may have different stated purposes (fuel economy vs. GHG reduction) is immaterial to whether a regulatory patchwork exists under CARB’s regime.

The foregoing arguments are all fatally flawed because even in the absence of *any* federal standard, a patchwork is created once a state adopts CARB’s regulation and bases compliance on what automakers deliver for sale in that state. The unique state-by-state fleets of each automaker create the basis for the patchwork, not the standard itself.

THERE IS NO “CALIFORNIA CAR” FOR FUEL ECONOMY/GHG PURPOSES

Many policymakers have been apparently misled to believe that regulating criteria air pollutants that contribute to smog is similar to regulating GHGs such as CO₂, which is not a component of smog. They note California’s history of regulating motor vehicle emissions did not create a burdensome regulatory patchwork when adopted by other states. Historically, CARB’s rules simply required manufacturers to ensure that they deliver vehicles modified for sale in California (“California cars”) into “California” states, while delivering “Federal” cars in non-California states.

⁵⁴ Submitted testimony of Gov. Jon Corzine before the U.S. Senate Committee on Environment and Public Works, January 24, 2008.

Regulating GHGs is entirely different from regulating criteria air pollutants. Absent mix shifting, the only way to comply with CARB's fuel economy/GHG regulation is to deliver for sale in each CARB state a new vehicle *fleet* that, on average, emits significantly less CO₂, which can only be achieved by significantly improving fuel economy. Unlike for smog-producing air pollutants, there is no economically practical way to capture CO₂ onboard a motor vehicle.⁵⁵ Moreover, no device akin to a catalytic converter exists to turn CO₂ into a non-GHG.

Some supporters of CARB's regime apparently assume that CARB's fuel economy/GHG rule works the same as its criteria air pollutant regulations. This is an incorrect assumption. An example of this erroneous assumption can be found in a letter the governors of the CARB states wrote to the EPA Administrator on January 23, 2008, stating:

"There is no patchwork. Rather, there continues to be the two-car system that Congress intended – California cars and federal cars. The federal government has not yet established a greenhouse gas emissions standard for vehicles. If they do, manufacturers will continue to produce, at most, two vehicle types – one certified for sale in California and the states that have adopted California's standard, and one federally-certified for the remainder of the states."⁵⁶

The governors' letter omits a crucial fact about CARB's regulation and whether a patchwork exists. As California Attorney General Jerry Brown's website states, "Each individual vehicle is *not* [emphasis in the original] required to meet the regulations." Since compliance is based on fleet averages, and not on individual vehicles meeting a certain emission standard, the certified "California car" concept does not apply for fuel economy/GHG purposes.

⁵⁵ Tony Lewin, *Researchers Test Capturing CO₂ Before It Leaves The Car*, Automotive News, July 7, 2008 at pg. 18L.

⁵⁶ Letter from Gov. Arnold Schwarzenegger (R-CA) and 13 other Governors Regarding U.S. EPA's Denial of California's Tailpipe Emissions Waiver Request (January 23, 2008). Available at <http://gov.ca.gov/index.php?/press-release/8596/>

In this vein, some also suggest that granting the California waiver would create fleets delivered to CARB states of super fuel efficient “California” vehicles different than and unavailable in non-CARB states. An example of this perception can be found in a recent study submitted to the Florida Department of Environmental Protection.⁵⁷ This study speculates that the sale in Florida of

More fuel efficient cars are coming to the CARB states – thanks to the new CAFE standard Congress enacted in 2007.

more fuel efficient “California cars” will attract out-of-state consumers, thereby offsetting the negative effects of the cross border sales loophole.⁵⁸ However, for any given make/model there will be no difference

between federal and California cars for fuel economy/GHG purposes. Alabama and Georgia new car buyers will not only have access to the same vehicles as their Florida neighbors, they will probably enjoy a greater selection of vehicles, as CARB’s regulation is likely to limit consumer choice in states that adopt it.

The reality is that there would be no “California car” for fuel economy/GHG purposes. The only likely difference between CARB and non-CARB states will be that CARB states will have more small vehicles delivered for sale (whether or not consumer demand exists for them) and fewer new large vehicles.

On a make by make basis, the notion that citizens in CARB states will have access to more fuel-efficient vehicles than citizens in non-CARB states is false. More fuel efficient cars are coming to CARB states though, (and all of America) because of the new higher CAFE standard Congress enacted in 2007.

INFERENCE OF THE PATCHWORK: REGIONAL COMPLIANCE

On May 12, 2008, CARB Chairman Mary Nichols announced that she was open to discussing with automakers the setting of "regional" rather than state-by-

⁵⁷ Eastern Research Group, Inc, *Economic Analysis of Impacts of Adopting the California Low Emission Vehicle Program in Florida*, September 5, 2008.

⁵⁸ *Ibid.*, page 22.

state standards.⁵⁹ Under a “regional compliance” option, an automaker would be allowed to be out of compliance in one or more CARB states so long as it was in compliance in a “region.” The rules in one CARB state, Maryland, allows for a regional compliance regime.⁶⁰ Such a proposal begs the question: If no patchwork would be created, what purpose would adopting a “regional compliance” scheme serve?

Chairman Nichols’ offer and Maryland’s regulation tacitly admit that a patchwork would be created, because the only clear public policy reason for entering into a regional compliance arrangement would be to blunt the negative economic impacts and compliance costs of regulating on a state by state basis. However, going from regulating on a state basis to a regional basis will only transfer all the flaws of the patchwork from a state level to a regional level. Logically, if regional regulation of fuel economy is superior to state regulation, it would make sense to have the entire country be one “region.” Of course, Congress put precisely such a system in place when it enacted the CAFE program in 1975.

CARB denies the existence of the patchwork, and then offers to discuss a partial solution to it.

THE CROSS BORDER SALES LOOPHOLE

CARB Chairman Mary Nichols raised the “regional compliance” option in the context of addressing the new cross-border sales loophole CARB’s patchwork would create.⁶¹ The “cross border sales loophole” will arise if certain vehicles are either unavailable or hard to obtain in CARB states due to mix shifting.⁶² If automakers are forced to ration vehicles in CARB states to comply,

⁵⁹ David Shepardson, *California May Alter Emission Controls; State is Willing to Consider Regional Approach rather than State-by-State Regulations*, Detroit News, May 13, 2008.

⁶⁰ Code of Md. Regs. § 26.11.34, Section 8(C). The District of Columbia’s law also contemplates entering into a regional compliance scheme. D.C. Law 17-0151, Section 2(3).

⁶¹ The cross border sales loophole is not the only loophole in CARB’s regulation. This regulation would also create a state-based “SUV loophole,” as CARB’s stringency for passenger cars is 15.9 mpg higher than light trucks in 2016.

⁶² CARB claims that it would be “unlikely” for automakers to restrict availability of their most profitable models in CARB states. But because of the cross border sales loophole, automakers can mix shift and still

new car buyers may legally purchase rationed vehicles out-of-state.⁶³

Consumers may further seek to purchase new vehicles out of state if, as CARB acknowledges, its regulations causes the cost of new vehicles in CARB states to be higher.⁶⁴ The loophole itself undermines the efficacy of CARB's regulation, because out of state vehicle sales would not count towards an automaker's CARB state GHG fleet average.⁶⁵

The cross border sales loophole is likely to be especially prevalent in New England and the mid-Atlantic states, as new car buyers from these states will be

A new loophole created by the patchwork.

able to travel short distances to neighboring states to purchase vehicles unavailable in their home states due to the patchwork. In sum, if due to mix shifting consumers in

CARB states turn to out-of-state purchases when faced with increased vehicle prices and limited vehicle selection, it will significantly disrupt retail sales with no net improvement in overall fuel economy/GHG benefits. Moreover, consumers are likely to hold onto their older vehicles longer or to purchase slightly used vehicles (defined as vehicles with more than 7,500 miles) as they are not regulated. This consequence of CARB's approach would also frustrate a goal of CARB's regulation, as increased sales of used vehicles delays introduction into the fleet of new and more fuel economical vehicles that emit fewer GHGs.⁶⁶

not lose overall sales, although auto dealers in CARB states are at risk to lose home state sales. See CARB, "Regulations to Control Greenhouse Gas Emissions from Motor Vehicles: Final Statement of Reasons." August 4, 2005, page 178

⁶³ EPA regulations for model years 2004 and later allow auto dealers in any state that borders a state that has adopted California standards to sell California-certified cars as well. See David Bookbinder, David Doniger, and Seth Kaplan, "Legal Issues Pertaining to the Adoption of California GHG Emission Standards by Other States," September 24, 2002, page 5.

⁶⁴ CARB, *Regulations to Control Greenhouse Gas Emissions From Motor Vehicles, Final Statement of Reasons*, page 5, August 4, 2005

⁶⁵ Rhode Island's regulation is a possible exception to the cross border sales loophole, as it bases compliance on vehicles "sold, leased, offered for sale or lease, imported, delivered, purchased, rented, acquired, received, or registered in the State of Rhode Island." R.I. Air Poll. Ctrl Reg. 37.2.3. While Rhode Island may have closed this loophole, it will have done so only by creating a new problem, as it is unclear the method by which Rhode Island regulators expect automakers to account for vehicles obtained outside of Rhode Island for compliance purposes.

⁶⁶ This phenomenon is called the "jalopy effect."

The exception to the patchwork is Pennsylvania. Under Pennsylvania's regulation, an automaker is deemed to be in compliance if it is compliant in California, based on the premise that "the vehicle fleet mix in this Commonwealth is similar to California's, and the Commonwealth anticipates it will realize similar GHG emissions reductions in this Commonwealth because the fleet vehicles mix in this Commonwealth is similar to California's."⁶⁷ Because being in compliance in California makes an automaker compliant in Pennsylvania, this state has avoided the patchwork and the attendant economic dislocation it will cause. Additionally, it is conceivable that Pennsylvania auto dealers would experience a windfall because of CARB's regulation as car buyers from New Jersey, New York and Maryland seek vehicles that are in short supply in their home states.

The regulatory hodgepodge described above clearly demonstrates why Congress determined in 1975 that motor vehicle fuel economy should be regulated nationally. With the national CAFE program, there is no cross border sales loophole, as the program is national in scope.

CONCLUSION

Based on the actual state regulations implementing CARB's fuel economy/GHG regulatory regime, the granting of the California waiver would result in a regulatory patchwork involving all CARB states, except Pennsylvania. A regulatory patchwork is created when a state adopts CARB's regulation and bases compliance on what automakers "deliver for sale" in that state, with the variation in state fleets forming the basis for the patchwork. If the California waiver is granted, an automaker could be in compliance in one CARB state, yet be out of compliance in others despite offering the exact same choice of vehicle makes in all CARB states, due to varying consumer demand. This inconsistent result is the regulatory patchwork.

⁶⁷ 36 Pa.B. 7424

CARB's regulation likely will compel automakers to boost sales in CARB states of small vehicles by offering discounts, limit sales of large passenger cars and large light trucks by rationing their availability, or a combination of both.

The new proposed CAFE standard has relegated CARB's regulation to a very expensive shell game.

Moreover, exempt manufacturers may benefit by poaching market share from their regulated competitors. In addition, the cross border sales loophole, which allows consumers to cross state lines to obtain rationed vehicles, will predictably diminish purported fuel economy/GHG gains.

The patchwork will be particularly harmful in small markets, such as Vermont, Rhode Island, and Maine. Absent vehicle rationing, brisk sales of large vehicles in these states could force automakers out of compliance.

Given the patchwork design of CARB's regulation, automakers will have to engage in some level of mix shifting to ensure compliance. In contrast, automakers have already begun building their fleets to comply with the federal CAFE standard, where mix shifting is not a compliance option. In essence, the enactment of EISA has relegated CARB's regulation to a very expensive shell game – and one which auto dealers, consumers, and automakers can ill afford.

CARB's push for its own fuel economy/GHG regulation arguably can be credited for serving as an impetus for the enactment of EISA, which will raise fuel economy by at least 40 percent by 2020. But while there was a vigorous debate over the ideal CAFE standard in the last Congress, it has long been settled policy that fuel economy is regulated by Congress alone and that a single national fuel economy standard is preferable to a patchwork of state regulations. Putting aside the millions of auto industry-related jobs currently in jeopardy, it would make no sense for Congress to enact a robust new CAFE program, only to allow it to be undermined a short time later by a patchwork approach.

It is a time of unprecedented economic stress for the automotive industry. At a minimum, regulatory stability, efficiency and certainty are necessary if the difficult fuel economy goal set in EISA is to be achieved. A single national fuel economy standard provides stability, efficiency, and certainty that will give manufacturers a road map to produce the fuel efficient cars of tomorrow. A patchwork regime – with its exemptions, loopholes and unintended consequences – would only exacerbate the economic turmoil in the auto sector, for little to no environmental or energy security benefit. As the California waiver is reconsidered, the new President and Congress must consider whether the wisest course for all America is a single national fuel economy standard set by the Obama Administration.

Patchwork Proven: How It Works

1. **Federal Standard** – “The Secretary shall prescribe a separate average fuel economy standard for passenger automobiles and a separate average fuel economy standard for non-passenger automobiles⁶⁸ for each model year beginning with model year 2011 to achieve a combined fuel economy average for model year 2020 of at least 35 miles per gallon for the total fleet of passenger and non-passenger automobiles **manufactured for sale in the United States** for that model year. – Title 49, United States Code, Section 32902

States That Base Compliance on Vehicles Sold in California

2. **California** -- “Each manufacturer’s PC and LDT1 fleet average Greenhouse Gas value for the total number of PCs⁶⁹ and LDT1s⁷⁰ **produced and delivered for sale in California**, (emphasis added) including vehicles certified in accordance with section 1960.5 and vehicles certified in accordance with section 1961(a)(14) shall be calculated as follows...” – Title 13, California Code of Regulations, Section 1961.1⁷¹
 - a. **Pennsylvania** – “This final-form rulemaking does not include a Pennsylvania GHG fleet average requirement. Overall, the vehicle fleet mix in this Commonwealth is similar to California’s, and the Commonwealth anticipates it will realize similar GHG emissions reductions in this Commonwealth because the fleet vehicles mix in this Commonwealth is similar to California’s.” – 36 Pa.B. 7424

States That Base Compliance on Vehicles Sold in Their State

3. **Arizona** – “Each manufacturer would be required to demonstrate that all of its passenger cars and light-duty trucks **delivered for sale in Arizona** on or after January 1, 2011, meet an average emission standard for GHG, as detailed in CCR, Title 13, section 1961.1,⁷² incorporated in R18-2-1803. – 18 A.A.C. 2
4. **Connecticut** – “The fleet average greenhouse gas exhaust emission levels for passenger cars, light-duty trucks, and medium-duty passenger vehicles that are **produced and delivered for sale in the State of Connecticut** by a large volume manufacturer for each 2009 and subsequent model year are established as, and

⁶⁸ “Non-passenger automobile” = light duty truck

⁶⁹ “PCs” = passenger cars

⁷⁰ “LDT1s” = light duty truck under 3751 pounds

⁷¹ The language regulating LDT2s (light duty trucks above 3751 pounds) and medium duty passenger vehicles are identical to this section, and omitted for the sake of brevity.

⁷² Section 1961.1 is the provision in the California Code of Regulations that attempts to regulate fuel economy/greenhouse gases.

shall be determined in accordance with, the provisions set forth in California Code of Regulations, Title 13, section 1961.1.” -- Conn. Admin. Code § 22a-174-36b

5. **Maine** -- The fleet average greenhouse gas exhaust emission levels for passenger cars, light-duty trucks, and medium-duty passenger vehicles that are **produced and delivered for sale in the State of Maine** by a large volume manufacturer for each 2009 and subsequent model-year are established as, and shall be determined in accordance with, the provisions set forth in California Code of Regulations, Title 13, section 1961.1. – 06 Code of Maine Rules § 127
6. **Maryland** – “Effective with model year 2011...compliance with the California Fleet Average Greenhouse Gas Requirements shall be demonstrated by each motor vehicle manufacturer. Compliance with...[this] regulation shall be based on the number of vehicles...**produced and delivered for sale in Maryland by each manufacturer.**” Code of Md. Regs. § 26.11.34, Section 8(A) and (B).
7. **Massachusetts** – “Effective for 2009 and subsequent model years, each manufacturer shall comply with the fleet average greenhouse gas emission levels from passenger cars, light-duty trucks and medium-duty passenger vehicles...in accordance with Title 13 CCR, 1961.1, **based on vehicles delivered for sale in Massachusetts.**” – 310 Code of Mass. Regs. 7.40(2)(a)(6)
8. **New Jersey** – “The following documents and sources are incorporated by reference within this subchapter: Section 1961.1: Greenhouse Gas Exhaust Emission Standards and Test Procedures – 2009 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.” -- NJ Admin. Code §§ 7:27-29.13
9. **New Mexico** – “Effective model year 2011 and each model year thereafter, each manufacturer subject to this part shall comply with emissions standards, fleet average greenhouse gas exhaust mass emission requirements for passenger car, light-duty truck, medium-duty passenger vehicle weight classes, and other requirements of CCR, Section 1961.1, for vehicles **produced and delivered for sale in New Mexico.**” -- 20 NM Admin. Code, Chapter 2, Part 88
10. **New York** – “The fleet average greenhouse gas exhaust emission levels from passenger cars, light-duty trucks and medium-duty passenger vehicles **produced and delivered for sale in New York** by a manufacturer each model-year shall not exceed the number set forth in California Code of Regulations, title 13, section 1961.1.” – 6 NY Code, Rules & Regs., Part 218-8.3
11. **Oregon** – “For purposes of applying the incorporated section of the California Code of Regulations, **“California” means “Oregon”**. **Each manufacturer subject to the greenhouse gas provisions of this regulation must comply with the emissions standards, fleet average greenhouse gas exhaust mass emission requirements** for passenger car, light duty truck, medium duty passenger vehicle

weight classes, and other requirements of CCR, Title 13, section 1961.1” – Or. Admin. Rules § 340-257

12. **Rhode Island** – “The greenhouse gas emission standards of Title 13 CCR 1961.1 and related provisions of this regulation shall apply to all 2009 and subsequent model year passenger cars, light duty trucks, and medium duty vehicles **sold, leased, offered for sale or lease, imported, delivered, purchased, rented, acquired, received, or registered in the State of Rhode Island.** – RI Air Poll. Ctrl Reg. 37.2.3
13. **Vermont** – “Each manufacturer shall meet the following fleet requirements for the new vehicles **delivered for sale or lease in Vermont.** Effective for the 2009 and subsequent model-year passenger cars, light-duty trucks, and medium-duty passenger vehicles, each manufacturer shall comply with the with the fleet average emission greenhouse gas requirements.... in accordance with Title 13, California Code of Regulations Section 1961.1” – Vt Air Poll. Ctrl Regs., Subchapter XI, 5-1106(a)(5)
14. **Washington** – “The fleet average of greenhouse gas exhaust emission levels for passenger cars, light-duty trucks, and medium duty passenger vehicles **produced and delivered for sale in the state of Washington** by a large volume manufacturer for each 2009 and subsequent model year are established in the California Code of Regulations, Title 13, section 1961.1.” – Wash. Admin. Code §173.423-090(2).

Local Jurisdictions That Have Adopted the CARB Regulation

15. **City of Albuquerque-Bernalillo County, NM** – “Effective model year 2011 and each model year thereafter, each manufacturer subject to 20.11.104 NMAC shall comply with emissions standards, fleet average greenhouse gas exhaust mass emission requirements for passenger car, light-duty truck, medium-duty passenger vehicle weight classes, and other requirements of CCR Section 1961.1, **for vehicles delivered for sale in Bernalillo county** {sic}.” -- 20 NM Admin. Code, Chapter 11, Part 104
16. **District of Columbia** – “The Mayor [s]hall establish and maintain a low-emissions vehicle program by adopting California emissions standards and compliance requirements applicable to vehicles of model year 2012, and each model year thereafter, pursuant to section 177 of the Clean Air Act...” – D.C. Law 17-0151